VASQUEZ BOULEVARD/INTERSTATE 70 SITE
WORKING GROUP MEETING
May 6, 1999
Swansea Recreation Center, Denver CO

FINAL MEETING SUMMARY

In Attendance:

Working Group

Linda Larson, Heller Ehrman White & McAuliffe (Asarco)
Bob Litle, Asarco
Celia VanDerLoop, City and County of Denver, Dept. of Environmental Health
Joan Hooker, Clayton Neighborhood
Anthony Thomas, Clayton Neighborhood
Michael Maes, Elyria Neighborhood
Chuck Patterson, Globeville Neighborhood
Frances Hartogh, State of Colorado Attorney General's Office
Fonda Apostolopoulos, State of Colorado, Dept. of Public Health and Environment
Jane Mitchell, Colorado Dept. of Public Health and Environment
Lorraine Granado, Swansea Neighborhood and Cross Community Coalition
Sandy Douglas, Cole Neighborhood
Bonnie Lavelle, EPA Region 8
Matt Cohn, EPA Region 8
Susan Muza, ATSDR
Melissa Muñoz, COPEEN

Contact Group

Joyce Tsuji, Exponent (Asarco)
Ted Fellman, EPA Region 8
Michael Wenstrom, EPA Region 8
Elizabeth Evans, EPA Region 8
Art Varnado, EPA Region 8
Nancy Strauss, Colorado Department of Public Health and Environment
Marion Galant, Colorado Department of Public Health and Environment
Sonia Fleck, COPEEN
Glenn Tucker, ATSDR

Facilitators

Louise Smart, CDR Associates
Mary Margaret Golten, CDR Associates
Tamara Sadoo, CDR Associates (notetaker)

In anticipation of the Working Group's discussion, the facilitators reviewed the Purpose of the Working Group and discussion guidelines from the Procedural Guidelines and presented some parameter's for the group's discussion:

Purpose of the Working Group

To provide a discussion forum for community representatives, State and local governmental agencies, and other interested parties and organizations. To provide input to EPA and other agencies, as appropriate, about environmental cleanup of the VB/I70 site. As the lead regulatory agency for the Superfund process at the site, EPA is seeking input on all aspects of the investigation of metals contamination, the assessment of risk associated with exposure to the contamination, and the identification and evaluation of management options.

Ground Rules

- Avoid side conversations or interruptions
- Be sensitive about length and pertinence of comments – encourage participation from all
- Avoid repeating, just say you concur
- Keep to agenda – unless group agrees to change agenda – use "future topics" list
- Remain open-minded
- Focus disagreement on issues – not on perceptions of motives/personalities
- Begin and end on time
- Facilitators elicit response from all

Principles

- Active participation by all
- All need common base of information and are kept up to date
- Everyone should feel comfortable to state views and disagree
- Voicing disagreements is encouraged
    1. To illuminate problems
    2. To be a catalyst for new ideas

- Goal is to discover unmet needs and meet them, rather than suppress objection

The facilitators asked about the desired level of detail for the Meeting Summary and whether or not to attribute comments. Bonnie Lavelle expressed the concern that in the past, there has not been the freewheeling discussion she had hoped for, and she suggested that the detailed meeting summaries might have been an inhibiting factor. The Working Group members said that they liked the level of detail and attributions in the meeting summaries and requested that this format continue. Lorraine Granado noted that it is useful to have information presented, time for reflection, and then an

opportunity to discuss the material. Susan Muza said that there is some concern about the airing of disagreement between agencies in a public forum. The Working Group expressed their confidence that they could discuss technical issues and questions in an open and constructive way and were eager to do so.

Please note: The format for the following notes include the initials of the speaker, in parentheses, followed by the comment or question. The wording of the comments or questions is not a quotation, but is the note-taker's best understanding of the point expressed. Please see the list of attendees, above, for the full names of the participants.

Boundaries of the Study Area, Sampling Intentions, and Patterns of Contamination

- (BL) The boundaries of the revised study area match the boundaries of the neighborhoods. Since the contamination appears to be in a random pattern, EPA intends to sample all the residential properties it has not already sampled (with permission from property owners), in order to ensure that EPA has identified all contaminated properties.
- (CV) All residential properties should be sampled. Will EPA sample commercial properties?
- (BL) EPA will begin by doing random commercial properties. If they appear to be uncontaminated, EPA will not sample other commercial properties. EPA would like to avoid spending resources unnecessarily.
- (CP) In considering commercial properties, it may be useful to examine historical records about the identity of previous business.
- (AT) How can EPA assume there is a random pattern of contamination in Cole and Clayton, since EPA has not yet sampled there? (BL) We can't assume this. EPA will have to sample to determine if this is true in these neighborhoods; however this is the pattern that EPA has observed so far.
- (SM) David Mellard has said that the bulk of the pattern is random. However, he thinks there might be an underlying pattern: if you eliminate the high concentration properties, you would see a pattern in the properties of lower levels of contamination.
- (CP) Have schools and playgrounds been sampled? (BL) Yes and the data will be checked again to be certain.*
- (JM) I have a concern that cut-offs of concentrations were quite a bit above background. Background is difficult to pinpoint because of natural occurring levels of metals.
- (LG) I am concerned that this is focused a lot on soils testing in terms of pathways. I have seen no determination of wind patterns and soil migration and their effect on the distribution of contamination. I would like to see work done on dispersion models. Which way the wind blows could create a pattern of contamination. (BL) Air dispersion models could predict concentrations away from a source. But sampling is a more rigorous method than modeling because it provides real data.

Subsurface Sampling

- (FH) Contamination seems to follow individual property lines. There are two theories that might explain this: (1) something occurred to those properties to make them dirty; (2) something occurred to those properties to make them clean. In some instances, there might be no surface contamination, but there might be deeper contamination. How will EPA decide how deep to go? (BL) We are not concerned about depth at the present time and are planning to minimize the subsurface sampling. However, we will review the subsurface data from Phase One and Phase Two.
- (CP) The data indicated that concentrations diminished with depth. There is a nugget effect. You could have a high level of subsurface contamination in a spot. Although I recognize the need for being efficient and saving money, I still worry about overlooking something.
- (BL) Clarification about depth samples: Phase I and Phase II (first-time sampling) included one sample per property at 6"-10". Phase II confirmation sampling of all properties identified as impacted included one sample per property, taken at the 12"-16" depth.
- (JM) Based on the intensive sampling, the top 2" would be representative of the maximum concentration. Although there are differences, lower levels, of concentrations at depth, these are not necessarily low concentrations. It would be good to go back and look more at Phase I and II depth results to be comfortable with EPA's conclusion to not sample at depth in Phase III.
- (CV) It would be good to see if concentrations are co-located: if the concentration is elevated at depth, is it associated with elevations at the surface?(Bonnie will look at this)*
- (AT) Many post World War II homes were built on landfills. Does the EPA know which were built on landfills and which were not? Homes north of 38th are post-World War II; south of 38th are pre-World War II. Contamination could have been brought in from somewhere else; or it could have been moved around. Where did the dirt come from? EPA should look at where the landfills were and at the age of homes. (CV) The City has a landfill map, but it is very poor. (JT) You could look at topographical maps. (BL) We have a series of aerial photographs that may help in this.*
- (FH) How deep do you have to sample to get information about historical contamination? Is the question moot because if the contamination is deeper than 16" people won't be exposed? Or, is the question important in order to determine the source of the contamination?
- (CV) A question is, if the contamination is not a health risk at 12" or 18", is the contamination acceptable? Perhaps there should be some limited sampling below 12", especially where there are dirty properties (including adjacent properties). We have a population of pretty dirty properties. 500 ppm arsenic at one-foot depth is high.
- (LS) There are two different purposes for the data: (1) information to help be protective of human health and (2) information to determine where the contamination came from. (BL) The conceptual site model is designed to consider the source, the

release, the media, and exposure. Phase 3 will focus on media and exposure. The source questions are separate; EPA will continue to pursue the source question, and one approach will be the Comparative Soils Study.

- (AT) How would arsenic trioxide compare with the molecular weight of arsenic found at other sites?
- (CP) Regarding types of arsenic, the differences do not have such much to do with molecular weight. What the arsenic is bound to depends on soil type, soil permeability, and climate as well as other characteristics of arsenic. These variables will affect how arsenic moves through soil.
- (AT) You have to dig to do an add-on; typically, you dig four feet down. As we go down, there are different colors of soil every foot (sandy, dark clay, light clay). My concern is: how are these chemicals behaving in the soil? Where did these different soils come from?
- (SD) How far can residents dig without having a health risk? (BL) Our model for cleanup is 18", based on gardening activities. (SM) In other places, frostline has been used as the cleanup depth. (FA) People want houses sampled as quickly and efficiently as possible. I would recommend doing 2" sampling first, so people can know what's happening as soon as possible; deeper level sampling can occur later.

Cadmium and Zinc

- (SF) Different metals have different infiltration behavior, how they sink in the soils. There is more lead at deeper levels than arsenic. Zinc and cadmium are homogeneous at the 2" and 12" levels. If all four metals are behaving differently, EPA should take that into account when testing. Applying the same test to metals that behave differently might not yield proper results.
- (LG) I do not like to see all the metals lumped together. The failure to test for cadmium and zinc has been a problem; I would like to see future testing for cadmium and zinc. Cadmium moves downward and can contaminate underground water. (CV) When you look at Locations 1 through 5 and 8, they are filthy for arsenic and lead, but cadmium is really low. The risk-based sampling results showed me that the contamination on the really dirty properties is arsenic and lead. (BL) The data that we have: In Phase I and II, we used XRF (X-Ray fluorescence). Perhaps we can look at the two-contaminant mechanisms with GIS and turn off lead and arsenic to check for only cadmium and zinc. Ten percent of all samples were sent to a laboratory, which looked for all metals. In the Physical-Chemical Characteristics study, we took 5% of all samples and looked at cadmium and zinc; these samples spanned all concentration ranges. In the intensive sampling, 100% of the samples were tested for cadmium and zinc. (BL) We will look at all the data and explicitly report our findings related to cadmium and zinc. * (CV) The XRF analysis provides information on all the metals.
- (MelM) Although the chart shows an action level for arsenic and a default level for lead, there is no corresponding level shown for zinc and cadmium. Cadmium has a 2 ppm detection level. Could detection levels be added to this report? (BL) We will flag detection limits in the report.* HQ stands for "hazard quotient". This is calculated at dose divided by acceptable dose and includes a lot of assumptions

about exposure. It represents a soil concentration below which there will be no adverse effects under a residential situation. HQ conveniently describes non-cancerous risks.

- (LG) What is the MRL for arsenic in soil? I think it is around 38, but the detection limit is 70. I think ATSDR's job is to establish MRLs. If the detection limit is two times the MRL, why is the MRL below the detection limit? (BL) Since a MRL is a dose, it is useful to think in terms of the HQ (hazard quotient). (LG) Why does HQ not include cancer?
- (JM) Cadmium is only a carcinogenic if inhaled, not if ingested. (LG) That is why I am concerned about inhalation.
- (BL) We don't think that background is as important as a risk-based number. We think background is important if we determine that a risk-based number is below background. We don't have plans to put resources into attaining background; we are focused on the health-based risk.
- (MellM) The report section on quality assurance (p. 16) includes XRF/ICP results, but does not talk about results for cadmium. Inhalation is a more dangerous exposure pathway for cadmium. (JT) The results from the two methods appear to be the same for cadmium.

Groundwater

- (MichaelM) Are we looking just at health effects related to soils, or will we also look at groundwater? (FA) In Globeville, off the plant site, we are not finding the groundwater is contaminated with cadmium. Groundwater contamination is not coming from the yards. The contamination to groundwater is a result of a particular process used at the plant. (LG) I disagree; water from wells has been contaminated. (AT) I live just north of Globeville; our well was condemned because of cadmium. (BobL) A remedy is in place at the Globe plant; we are intercepting water and treating it. The flow of groundwater is toward the Platte and away from the neighborhoods. (MichaelM) The question is, is what we have here contaminating the water beneath us? (BL) The Phase 3 sampling effort will focus on characterizing the soil in the neighborhoods. We will then look at on-smelter soil (Argo and Omaha Grant) and how it impacts groundwater including: how the groundwater flows; and how the groundwater interacts with the South Platte. We will set up a model and then try to learn how these metals are impacting the groundwater. (AT) There has been a lot of general construction in the Omaha Grant area, so you may have to go down a number of feet to deal with the contamination.

PAX

- (AT) Has there ever been any connection examined between PAX and soil contamination anywhere in the country? (JT) Eastern Washington State has done a study investigating the use of pesticides such as PAX. Many of their orchards were contaminated with lead and arsenic. (BL) The use of pesticides as a cause of

contamination has been identified. We are investigating PAX because there is evidence that it was sold in this area.

- (AT) The cost of PAX was prohibitive, so I doubt that residents used it.
- (BobL) The active ingredients in PAX are arsenic trioxide and lead arsenate. (MelM) Has lead arsenate been found in this site? (BL) We need to flag this question. (LG) I would like an opportunity to know how the state is studying arsenic at Globe. (FA) A presentation on this would require a 2-3 hour block. (BL) We can arrange time for this.*

Dust

- (LG) At Stapleton, they discovered there is more contamination in the dust inside the buildings than in outside soil. Wet dusting will prevent us from learning what we need to know about contamination in the dust.
- (BL) There are two dust-related pathways: (1) inhaling dust outside and (2) inhaling dust inside. If people ordinarily clean their homes (to remove dust), then asking them not to clean prior to sampling would over-predict the exposure from dust.
- (AT) I am concerned about crawl space dirt. A lot of homes have crawl spaces, so crawl space dirt should be tested, as well as attic dust. In some homes, the furnace is set on the dirt; the air then goes through the house. (BL) We can test the crawl space dust to see what's there and then test the interior dust to see what's getting in the house.
- (JT) When was the house dust sampled (seasons can affect this)? Would people have had windows and doors open? (BL) Sampling probably occurred in early September.* (JT) Eight samples are a poor sample size. This can have it's own set of problems. (BL) We actually took samples form 18 homes but did not have enough mass. (JT) Families are now on alert about dust in their homes. In future sampling, it would be useful to find out people's cleaning schedule and avoid sampling right after they have cleaned. It would be useful to report both loading and concentration from both high and low soil concentration properties. (Bonnie will check to see if this would be useful, and will consult with the risk assessors in order to clarify how the homeowners should be advised as to cleaning).*
- (SD) When you start developing the plan for Phase 3 sampling, will you visit Asarco's data? (BL) We could do that when we look at the results.
- (AT) How much dust do you need? Can you go into someone's home and vacuum the edge of the carpet or throw rug? (BL) That is what the samplers did. Chris Weis is experimenting with a different chemical technique, which would require less dust. When we develop our standard operating procedures for sampling dust, the technical people can give us advice on ways to collect dust. The overall sampling plan is due next week. Within two weeks, the report will be ready for everyone to examine.
- (CP) Although there may be a link between soil and dust, I don't see how they link in setting a cleanup standard. The trouble with dust is that it is transitory. It varies, depending on season, wind directions, and employment patterns. I would recommend removing consideration of dust from soil cleanup levels. I would like to

have a dust cleanup level. If yard dust does not correlate with the seasonal dust, it will be hard to link dust in reliably. (JT) The risk assessment and clean up numbers are calculated from soil, not dust. We are trying to set clean up levels for sources of contamination.

- (BL) An ingestion rate assumes a certain percentage of ingestion of dust. Perhaps we can have a session where we can look at the equation to understand better the relationship between dust and soil.* You typically sample a percentage of homes for dust to establish a linear relationship between arsenic in soil and arsenic in dust. Where you have soil concentrations, you can predict for dust. If the dust is not from the soil, the curve will not be linear.
- (LG) If there is an ongoing source of contamination, contamination in dust will not just be from the soil.
- (MelM) We need to do more sampling of dust in homes. In the earlier sampling, indoor dust in basements was sampled, but not included in the statistical analysis. (Bonnie will find out why it was not included).* Basement dust should be included in the evaluations. (BL) We looked at attic dust to see if there was a past source of contamination (if it was different from dust in the living room). Future sampling will include all indoor dust. Our question is: How many samples are needed to establish a relationship between arsenic in dust and arsenic in the soil.
- (MichaelM) Many residents spend a lot of time in the basement.
- (SF) It would be useful to sample dust from non-impacted homes. What frequency of contamination do you need to have to be considered non-impacted? (BL) Non-impacted, at this site, means being below the emergency removal action level; non-impacted properties may still be considered for removal on a non-emergency basis. There were 18 removal homes ("impacted"); all had dust, paint, vegetables (where they were available), and tap water tested and biomonitoring conducted. Of these 18, 5 with highest levels of arsenic contamination were targeted for a five-foot grid. Of the 1200 homes sampled and the 18 homes sampled, three were chosen, each with a high, medium and low level contamination in order to establish a range. In Phase 3, dust samples from over 50 homes will need to be collected. We are targeting both homes that have and have not yet been sampled. Homes where arsenic has already been found will have their dust sampled as well in Phase III.
- (SM) If you were to collect basement dust, it might counteract the clean housekeeper syndrome.
- (LG) Testing of the dust in 50 homes is not a significant percentage of the properties in the study area (around 4000 homes). (CV) We can determine a statistically significant sample. (MelM) In the risk-based sampling, only one sample was supplied for the attic, and in some cases there was an insufficient mass of dust taken. Should the Phase III design prescribe more than one sample for the attic and basement dust?
- (CV) I suggest that we have a special session on statistics, including methods and sample size. (LG) Statistical significance is important. Are there other people who will be involved in your decisions on statistical significance? (BL) I will tell the contractors to make the sample design statistically significant to a particular confidence level; they will advise me how to do this.

Hot spots

- (AT) If there is a yard with a hot spot, the average concentration of the entire yard may be below the removal level. Will the yard be removed? (BL) Removal may depend on the size of the hot spot. We need to look at the potential risks of exposure over a lifetime. To do this, we need to estimate a dose over thirty years. We will estimate a dose over a thirty-year period, given that the person will not be continuously exposed to one spot in the yard over thirty years. It is not realistic however, to calculate that risk over a thirty-year period for one hot spot. We need to be comfortable that we are being conservative enough with our assumptions about exposure. Further, there may be a level of contamination where we would determine the hot spot is too high and should be removed. Our first effort at defining "how hot is hot" will be after we obtain the Phase 3 data, when we decide an action level. There will be two types of "hot" factors: statistical and risk-based (which presents an acute risk). Finally, we will need to establish and action level. If we find homes that are above emergency levels, we will deal with those immediately.
- (JH) Will a property owner be told if there are hot spots in the yard? If my neighbor has a hot spot next to my yard, will I be told? I would want to know so I could help her clean it up. (MichaelM) How would you know about your neighbor's hot spot? (MC) There is a privacy interest involved here. The questions is: what is the balance you want to achieve between a property owner's right to privacy and the neighbor's need to protect themselves.
- (MelM) Everyone knows where removal has taken place. (MC) The difference is that that property is now clean, so there is no economic stigma.
- (LL) This issue comes up at every residential cleanup site. It usually comes down to the question: Is this information that should be attached to the title of the property? For example, where you are putting in caps on the property, the future owners need to know what is under the caps. The issue is the person's privacy versus having the information available on a long-term basis. To obtain financing, the lenders will need the information. The information needs to be public. (FH) At the Globe site, the information is available. (FA) We give letters to lenders about the status of contamination on a property.

Compositing

- (BL) For the risk assessment, we need the average concentration. We need to take a number of samples that will give us an average we are confident provides the information we need. We can collect a certain number of samples, send them to a lab, and get a result for each. To estimate the average concentration, we could add up the results and divide by the number of samples. We would have to pay for analysis of each individual sample. Or, we could have the field crews take a certain number of samples, mix the samples in a stainless steel bowl, and send the mixture to the laboratory (compositing). Mathematically, both ways will yield the same results. If we will not sacrifice any accuracy, we would like to composite the samples to obtain the average. What would be lost in compositing would be information about a hot spot. Compositing will only give us information about the yard as a whole. Compositing would involve a decision about the number of samples to take

in order to predict a mean concentration. We want to look at our existing data to see what that tells us about predicting the concentration from the average.

- (LG) Would you do this for all four metals? (BL) We certainly would do it for arsenic and lead and perhaps for the other metals. (LG) If the old data has little information on cadmium and zinc, where are we? (BL) We have to base our sampling assumptions on arsenic and lead.
- (LG) How would you deal with variability? For example, the whole right side of the yard may have high concentrations. (BL) We would have to rely on the data we have now to look statistically at the variability. When a yard has a high level of contamination, there is a lot of variability; when the yard is clean, there is low variability. Depending on what we assume, our N can be driven up. We need to base the sampling design on the data and results that we have for arsenic and lead. We also have previous data for cadmium and zinc. We will draw conclusions based on these data. The number of samples we take will supply our level of confidence, which is a number we have to determine. If the average concentration were much higher than a level we would be concerned about, then the variability wouldn't matter, because we would take action.
- (FH) At Globe, we divided the yard into quarters. CERCLA contemplates taking the samples and averaging them. Can you get funding for a different sampling design? (BL) There is flexibility in sampling design. If we decide to do something different, we could seek funding for that.
- (LE) There would be a huge cost to EPA to test so many samples if we did not composite them. At the same time, there is a desire for information on variability. Are there field techniques to test for variability? (BL) No one is comfortable with the accuracy of hand-held XRFs. (FA) They are not accurate at lower levels.
- (CV) Variabilities are significant at high levels of average concentration. We may need to have a special sampling plan for really dirty properties and their adjacent properties.
- (JH) You could take a sample and divide it in half. You could use one half of the sample for compositing and reserve the other half of the sample for later testing if needed. (BL) This is a very good idea. (SM) ATSDR looks at the highest concentration, not the average. Joan's solution would cover this. ATSDR may be able to help pay for the testing of the individual samples where the results of the composite testing indicate a need to test the individual samples. ATSDR may be able to pay for the testing of vegetables in this growing season. ATSDR can work with EPA on this. (MelM) This sampling approach would help with environmental justice concerns.
- (BobL) There is more than just money involved in considering how many samples to analyze in the laboratories. Testing takes time and is labor intensive. The amount of testing will affect the timelines. We would like information on the impact to the timelines. (BL) There is limited availability of the laboratories. We may start the sampling effort this summer and continue into fall and spring. This raises the question of how to complete a risk assessment if you are still collecting data.
- (LG) Since the issue for us is our health and our children's health, accuracy is more important than time. We need to come out of this study feeling that our health and the health of our children will be protected.

- (JM) How will the information about compositing be considered? Will we get information about alternative plans? (BL) I will go to the contractor with my suggestions and get modifications to the plan.* I will send out a draft of the plan to the Working Group.

Comparative Soils Study

- (BL) This study is an important pilot study to get information about potential sources of the contamination in residential soils. We want to look at the physical parameters of the soil, to compare information about the type of material found in highly contaminated properties with material found in non-contaminated properties and with material found at the Globe site and historic smelters.
- (BL) We would like a sample of arsenic trioxide from the Tacoma Smelter because we requested information from the makers of PAX herbicide and were told that the arsenic trioxide came from the Tacoma smelter. (LL) This material is no longer available.
- (BL) We will take our sample of PAX and do some chemical analysis on the sample. We would like your thinking on how to do a comparison of all these parameters. When you get our report on the design of the comparative soils study, think about:
  - Is the plan sound?
  - Are there other places to get material to aid the comparisons?
- (CV) What are the tests you think EPA will run? (BL) The tests we are planning to run are:
  - Bulk soils characteristics
    - pH
    - Particle size
    - Soil classification (sand, silt, clay)
    - Percentage of carbon and nitrogen
    - CEC (cation exchange capacity)
    - Mineralogy
    - Atterberg limits (elasticity, plasticity of soils)
  - Chemistry
    - Full metals suite (TAL – Target and Analyze List)
    - Pesticides
  - Speciation
  - Bioaccessibility
- (CV) I would like to see DRINs family considered. Pesticides have a long life. The lime settling basins at Shell arsenal had arsenic in them from the wastewater. Looking at DRINs would tell us whether the pesticides had been used on the yard or had come in with another substance, such as lime. (BobL) In the Globe plan settling basins, the lime was used to neutralize the cadmium.
- (BL) Please look at the standard operating procedure that is attached to the plan. This is our attempt to do as exhaustive a speciation as we can especially with PAX. Trace particles are also very important to look at because they help to determine source.

- (FH) How comfortable is EPA with the chain of custody of the PAX sample? (BL) We will put this information in the sampling plan.*
- (SM) Regarding bioaccessiblity, we had talked about a pig study to help determine bioavailability at this site. (BL) A bioavailability study would be important; we are trying to see if it is doable.
- (BL) The plan will come out for review in about two days. I would like the first cut of comments in a week, with detailed comments within 3 weeks.

Effects of Ingesting Arsenic

- (JH) If a person has ingested arsenic in his system, what are the obvious signs we would look for? (JM) There are some neurological effects and various types of cancers, especially skin effects. (JT) If you ingested high levels of arsenic, you would have an upset stomach. Inhaling arsenic does not cause gastro-intestinal effects. If you are breathing it, it is not getting into your stomach. You might see changes in the skin on the palms of your hand and soles of feet; there might be changes in skin coloration if there has been long-term exposure. (SM) ATSDR has a sheet of Frequently Asked Questions (FAQ's) about arsenic. (JT) Young children receive more exposure to soil and dust than adults because they put their hands in their mouth more often.

Access to Properties for Phase 3 Testing

- (TH) The goal for Phase 3 is to get access to as many homes as possible for conducting the sampling. EPA is looking for suggestions on how to get signatures on access forms giving EPA permission to take samples. EPA is currently planning:
  - The contractor will send out letters, requesting permission to sample, with an access form included.
  - EPA will put flyers in the newsletters in Swansea and Elyria and will send the flyers through direct mail in Cole and Clayton.

Suggestions from the Working Group included:

- (AT) Send things home with students (Denver public schools get out June 9) and work with the churches.
- (MichaelM) Check responses against your list of properties. Go door to door for people who did not respond, and sign people up as you go.
- (MG) Use a business reply envelope to improve return from your mailing.
- (TH) Contractors and EPA staff will conduct door to door contact, and we would like to include a community person in this effort.
- (SM) Have renters follow up with communication to their landlords. (NS) Be sensitive about renters' relationship with their landlords.
- (NS) If you send information home with school students, consider the boundaries of the school vis a vis the boundaries of the neighborhood, to avoid confusion of people who live outside the study area.
- (AT) Create incentives for out-of-state property owners to give permission, such as writing a letter saying that a note will be attached to their title if their property is not cleaned up.

- (FA) Use a 3-tiered approach, such as we used at Globe: (1) Talk with people in person; (2) Send a series of letters, including certified letters, (3) Send a "heavy" letter. Include a line in the letter that says something to the effect that, "As long as you cooperate, the sate and EPA will not go against you". Make sure there are records of your attempt to notify people.
- (MichaelM) Send a cordial letter to owners that live off-site, explaining our mission regarding the health of the community and reminding them of their responsibility to their renters.
- (SM) Send an endorsement letter from the community association or from the Working Group with the EPA letter.
- (JH) Have the mayor's office do an announcement to the community. Ask Hiawatha Davis for help.
- (AT) Put an article in the Denver Post. (TH) We will prepare a press announcement and will let the Coalition know when it has gone out.
- (MichaelM) Have people available at a booth outside the churches to talk to people (including a person from the community along with EPA or the contractor). Have an announcement made from the pulpit. (TH) Please help us identify key churches in the area.
- (BL) EPA will need to keep track of people and contacts made, through a computer database.
- (TH) After our initial efforts to get permission from people, we will create a list of properties where we have not received permission and will ask the community to help us with those. We want to go to as many existing community meetings as possible to get the word out. We will plan a special meeting in June in the Cole/Clayton neighborhoods; we will have an event in Swansea and Elyria if desired.

Dates for Future Meetings

The dates for upcoming Working Group meetings are:

June 3 (please note this is a change)
July 15
August 5

All will be scheduled for 8:30 to 3:00 and will be held at the Swansea Recreation Center. The June 3 meeting will focus on finalization of the Phase 3 sampling plan and building toward the risk assessment, including pathways and exposure parameters.

There will be a special technical meeting May 12, from 11-3 at EPA offices [this date has been changed to Thursday, May 20, at 9:00 AM].

Updates

Louise Smart distributed a one-page "Update" sheet. The Working Group said this was useful. Susan Muza asked that future updates include information on EPA progress on reports.

Community Issues

There were no community issues.

Environmental Justice Follow Up

Mike Wenstrom told the Working Group that they are welcome to come to EPA to discuss environmental justice. EPA will put together a day or part of a day to work with them. Susan Muza commented that the Environmental Justice workshop had been very useful, especially having the community members participate. Ted Fellman said that the comments from the community members helped enlighten the process. Anthony Thomas remarked that participation by community members provided benefit to them and to the agencies. Joan Hooker said that the workshop helped bridge the community focuses on the people with the agency business-like approach.

Community Involvement Update

Ted Fellman reported that EPA had distributed a flyer to the community. A community meeting regarding access will be held June 22. The Coalition is welcome to play an active role in this meeting. CDOT (Colorado Department of Transportation) is putting together a flyer in what is happening at the Coliseum regarding environmental considerations. The CDOT project manager is willing to come talk to the Working Group, if desired. Wendy Thomi is working on the Community Involvement Plan. EPA will distribute this draft to the Working Group within the next month and will seek feedback. Marion Galant asked to be notified of community activities the agencies could participate in. Lorraine Granado and Joan Hooker mentioned upcoming community activities: Our Lady of Grace holds a bazaar in July; the Apostolic church on 50th has a similar activity; there is a community awards program at Nairobi Park.

Meeting Summaries

Susan Muza made, and the Working Group accepted, the following proposal: The facilitators will send out the Draft Meeting Summary to the Working Group and Contact List and will ask for additions and corrections. The facilitators will make any additions and corrections received and will send out only the corrected pages to the Working Group and Contact List. If there are no objections to these changes, the Meeting Summaries may be finalized as acceptable to the Working Group.

Meeting Evaluation

The group liked:

- The agenda, which provided a framework for preparatory thinking
- The free-form discussion
- Having lunch available

Suggestions from the group:

- Revisit the timeline of topics at the next meeting
- Start at 8:30; do not go backwards to accommodate late-comers
- Get the agenda out earlier, to provide an opportunity for others to add items to the agenda before creating a final agenda
- * Items Bonnie Lavelle will report on.

VASQUEZ/I-70 UPDATES
May 6, 1999

EPA:

- EPA is in negotiations with a contractor to conduct the Phase III sampling.
- EPA is finalizing the Work Plan for the Comparative Soils Study.
- EPA released an electronic version of the data (Phase I, Phase 2, and Risk-Based Sampling data) to parties who requested it.
- NPL listing comments have been compiled by EPA. EPA Headquarters is in the process of responding to these comments (copies of the comments are available in the Information Repositories).

The Community Coalition

- The Coalition held two Availability Sessions with ATSDR and the EPA on May 26th and May 27th in the communities.
- The Coalition has held discussions on applying for a Technical Advisory Grant.
- The Coalition is reviewing the Risk-Based Sampling Report.

ATSDR

- ATSDR conducted two Availability Sessions in the community and provided information on gardening practices.